

What is claimed is:

1. A compound which is crystalline carvedilol hydrobromide monohydrate.

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2. The compound according to claim 1 having an x-ray diffraction pattern as substantially shown in Figure 1.

10 3. The compound according to claim 2 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about  $6.5 \pm 0.2$  (2θ),  $10.3 \pm 0.2$  (2θ),  $15.7 \pm 0.2$  (2θ),  $16.3 \pm 0.2$  (2θ),  $19.8 \pm 0.2$  (2θ),  $20.1 \pm 0.2$  (2θ),  $21.9 \pm 0.2$  (2θ),  $25.2 \pm 0.2$  (2θ), and  $30.6 \pm 0.2$  (2θ).

15 4. The compound according to claim 1 having an infrared spectrum, which comprises characteristic absorption bands expressed in wave numbers as substantially shown in Figure 6.

5. The compound according to claim 1 having a Raman spectrum, which comprises characteristic peaks as shown in Figure 3.

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6. A compound which is carvedilol hydrobromide dioxane solvate.

25 7. The compound according to claim 6 having an x-ray diffraction pattern as substantially shown in Figure 78.

30 8. The compound according to claim 7 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about  $7.7 \pm 0.2$  (2θ),  $8.4 \pm 0.2$  (2θ),  $15.6 \pm 0.2$  (2θ),  $17.0 \pm 0.2$  (2θ),  $18.7 \pm 0.2$  (2θ),  $19.5 \pm 0.2$  (2θ),  $21.4 \pm 0.2$  (2θ),  $23.7 \pm 0.2$  (2θ), and  $27.9 \pm 0.2$  (2θ).

9. A compound which is carvedilol hydrobromide 1-pentanol solvate.

10. The compound according to claim 9 having an x-ray  
5 diffraction pattern as substantially shown in Figure 79.

11. The compound according to claim 10 having characteristic  
peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 7.5 ±  
10 0.2 (2θ), 7.8 ± 0.2 (2θ), 15.2 ± 0.2 (2θ), 18.9 ± 0.2 (2θ), 22.1 ± 0.2 (2θ), and  
31.4 ± 0.2 (2θ).

12. A compound which is carvedilol hydrobromide 2-methyl-1-  
propanol solvate.

15 13. The compound according to claim 12 having an x-ray  
diffraction pattern as substantially shown in Figure 80.

14. The compound according to claim 13 having characteristic  
peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 7.8 ±  
20 0.2 (2θ), 8.1 ± 0.2 (2θ), 16.3 ± 0.2 (2θ), 18.8 ± 0.2 (2θ), 21.8 ± 0.2 (2θ), and  
28.5 ± 0.2 (2θ).

15. A compound which is carvedilol hydrobromide  
trifluoroethanol solvate.

25 16. The compound according to claim 15 having an x-ray  
diffraction pattern as substantially shown in Figure 81.

17. The compound according to claim 16 having characteristic  
30 peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 7.7 ±

0.2 (2θ), 8.4 ± 0.2 (2θ), 15.6 ± 0.2 (2θ), 16.9 ± 0.2 (2θ), 18.9 ± 0.2 (2θ), 21.8 ± 0.2 (2θ), 23.3 ± 0.2 (2θ), 23.8 ± 0.2 (2θ), and 32.7 ± 0.2 (2θ).

18. A compound which is carvedilol hydrobromide 2-propanol  
5 solvate.

19. The compound according to claim 18 having an x-ray  
diffraction pattern as substantially shown in Figure 82.

10 20. The compound according to claim 19 having characteristic  
peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 7.9 ±  
0.2 (2θ), 8.3 ± 0.2 (2θ), 18.8 ± 0.2 (2θ), 21.7 ± 0.2 (2θ), 23.2 ± 0.2 (2θ), 23.6 ±  
0.2 (2θ), and 32.1 ± 0.2 (2θ).

15 21. A compound which is carvedilol hydrobromide n-propanol  
solvate #1.

22. The compound according to claim 21 having an x-ray  
diffraction pattern as substantially shown in Figure 46.

20 23. The compound according to claim 22 having characteristic  
peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 7.9 ±  
0.2 (2θ), 8.5 ± 0.2 (2θ), 17.0 ± 0.2 (2θ), 18.8 ± 0.2 (2θ), 21.6 ± 0.2 (2θ), 23.1 ±  
0.2 (2θ), 23.6 ± 0.2 (2θ), and 21.2 ± 0.2 (2θ).

25 24. A compound which is carvedilol hydrobromide n-propanol  
solvate #2.

30 25. The compound according to claim 24 having an x-ray  
diffraction pattern as substantially shown in Figure 54.

26. The compound according to claim 25 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 8.0 ± 0.2 (2θ), 18.8 ± 0.2 (2θ), 21.6 ± 0.2 (2θ), 23.1 ± 0.2 (2θ), 25.9 ± 0.2 (2θ), 27.2 ± 0.2 (2θ), 30.6 ± 0.2 (2θ), and 32.2 ± 0.2 (2θ).

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27. A compound which is carvedilol hydrobromide ethanol solvate.

28. The compound according to claim 27 having an x-ray diffraction pattern as substantially shown in Figure 70.

29. The compound according to claim 28 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 8.1 ± 0.2 (2θ), 8.6 ± 0.2 (2θ), 13.2 ± 0.2 (2θ), 17.4 ± 0.2 (2θ), 18.6 ± 0.2 (2θ), 21.8 ± 0.2 (2θ), 23.2 ± 0.2 (2θ), 23.7 ± 0.2 (2θ), and 27.4 ± 0.2 (2θ).

30. A compound which is carvedilol hydrobromide anhydrous.

31. The compound according to claim 30 having an x-ray diffraction pattern as substantially shown in Figure 62.

32. The compound according to claim 31 having characteristic peaks from 0° degrees 2-theta (2θ) to 35° degrees 2-theta (2θ) at about 6.6 ± 0.2 (2θ), 16.1 ± 0.2 (2θ), 17.3 ± 0.2 (2θ), 21.2 ± 0.2 (2θ), 22.1 ± 0.2 (2θ), 24.1 ± 0.2 (2θ), and 27.9 ± 0.2 (2θ).

33. The compound according to claim 30 having an infrared spectrum, which comprises characteristic absorption bands expressed in wave numbers as substantially shown in Figure 67.

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34. The compound according to claim 30 having a Raman spectrum, which comprises characteristic peaks as substantially shown in Figure 64.

5 35. A pharmaceutical composition, comprising the compound according to claim 1 and a pharmaceutically acceptable carrier.

36. A pharmaceutical composition, comprising the compound according to claim 30 and a pharmaceutically acceptable carrier.

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37. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a compound according to claim 1.

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38. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a compound according to claim 30.

20 39. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim 35.

25 40. A method of treating hypertension, congestive heart failure, or angina, which comprises administering to a subject in need thereof an effective amount of a pharmaceutical composition according to claim 36.